

**SYSTEM AND METHOD FOR IMPROVED DATA TRANSMISSION SPEED BY FIXING THE
LOWER CORNER FREQUENCY AT A FREQUENCY ABOVE VOICE BAND IN A SYMMETRIC
DSL TRANSMISSION SYSTEM**

ABSTRACT

5 A system and method of the present invention improves data transmission speeds
by fixing the lower corner frequency at a frequency above voice band in a symmetric
DSL transmission system. By using a fixed lower corner frequency that is above the
voiceband and increasing the upper corner frequency upward as the symbol rate
increases, the communication equipment systems utilize symmetric frequency plans that
10 incorporate the relatively low loss, low crosstalk spectrum range while still being able to
operate on the same line as analog voice band. Another aspect of the present invention is
directed to multiplexing a first modem for communicating information packets between
the first modem and a plurality of second modems via a single two-wire (e.g. telephone
subscriber) lines. The present invention provides a Multi-Access (MA) protocol that
15 enables a single link to be utilized by more than one access device (e.g., a CPE Modem).
The Multi-Access protocol of the present invention provides a means to connect to
multiple endpoints on a single local loop. Each CPE Modem may communicate directly
with a modem at a CO location thereby removing the need for expensive gateway devices
and secondary in-building cabling to support multiple access points.